

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT*COMPLIANCE and ENGINEERING***APPLICATION EVALUATION AND CALCULATIONS**

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Processed by: Hanh Le
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Date: 12/16/2011

PERMIT TO CONSTRUCT

COMPANY NAME: BP WEST COAST PRODUCTS LLC

MAILING ADDRESS: P.O. BOX 6210
CARSON, CA 90749EQUIPMENT ADDRESS: 2350 E. 223RD STREET
CARSON, CA 90810**FACILITY PERMIT SECTION H****PROCESS 2: COKING AND RESIDUAL CONDITIONING****SYSTEM 1: DELAYED COKING UNIT NO. 1**

S13.2, S46.1, 46.2, S56.1

Equipment	ID No.	Connect To	Emissions and Requirements	Conditions
COKE DRUM, NO. 1, RPV-1958, HEIGHT: 73 FT; DIAMETER: 21 FT 6 IN A/N 450810 527741	D70		PM: (9) [RULE 405, 2-7-1986]	
COKE DRUM, NO. 2, RPV-1959, HEIGHT: 73 FT; DIAMETER: 21 FT 6 IN A/N 450810 527741	D71		PM: (9) [RULE 405, 2-7-1986]	
COKE DRUM, NO. 3, RPV-1960, HEIGHT: 73 FT; DIAMETER: 21 FT 6 IN A/N 450810 527741	D72		PM: (9) [RULE 405, 2-7-1986]	
COKE DRUM, NO. 4, RPV-1961, HEIGHT: 73 FT; DIAMETER: 21 FT 6 IN A/N 450810 527741	D73		PM: (9) [RULE 405, 2-7-1986]	
FRACTIONATOR, COKER, RPV-1950, T-1, HEIGHT: 129 FT; DIAMETER: 12 FT 6 IN A/N 450810 527741	D74			
COLUMN, STRIPPER, RPV-1951, STOVE OIL, HEIGHT: 19 FT 3 IN; DIAMETER: 4 FT A/N 450810 527741	D75			
COLUMN, STRIPPER, RPV-1952, LIGHT GAS OIL, HEIGHT: 19 FT 3 IN; DIAMETER: 4 FT A/N 450810 527741	D76			
FILTER, NO. 1 COKER FRACTIONATOR BOTTOMS CIRCULATION STRAINER EAST, LENGTH: 4 FT 6 IN; DIAMETER: 3 FT A/N 450810 527741	D2763			
ACCUMULATOR, FRACTIONATOR OVERHEAD, RPV-1963, WITH SOUR WATER BOOT, LENGTH: 24 FT 9 IN; DIAMETER: 8 FT A/N 450810 527741	D78		(PSV vented to flare)	

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FILTER, NO. 1 COKER FRACTIONATOR BOTTOMS CIRCULATION STRAINER WEST, LENGTH: 4 FT 6 IN; DIAMETER: 3 FT A/N 450810 527741	D2764			
DRUM, BLOWDOWN KNOCKOUT, RPV-1957, D-8, (COMMON TO COKER NO. 1 ABD BLOWDOWN FACILITY), HEIGHT: 42 FT; DIAMETER: 12 FT A/N 450810 527741	D79			
PIT, COKE, COMMON TO #1 COKER AND #2 COKER, WIDTH: 40 FT; DEPTH: 29 FT; LENGTH: 162 FT A/N 450810 527741	D81			
FILTER, FUEL GAS, RW-6090 289.02, HEIGHT: 10 FT 7 IN; DIAMETER: 2 FT 8 IN A/N 450810 527741	D2388			
FUGITIVE EMISSIONS, MISCELLANEOUS A/N 450810 527741	D2465		HAP: (10)[40CFR 63 Subpart CC, #5A, 5-25-2001]	H23.3

Process 21: AIR POLLUTION CONTROL SYTEM**SYSTEM 1 : SOUTH AREA FLARE SYSTEM**

~~S56.1, S58.2,~~
S31.10

Equipment	ID No.	Connected to	Emissions and Requirements	Conditions
FLARE, ELEVATED WITH STEAM INJECTION, NATURAL GAS, WITH 3 PILOT ASSEMBLIES, TIE-IN LINE TO FCCU FLARE FROM THE SOUTH UNITS, DIA: 3 FT, HEIGHT: 203 FT 6 IN A/N 515465 527742 BURNER, JOHN ZINK, MODEL STF-S-24	C1302	809 815	CO: 2000 PPMV (5) [RULE 407, 04/02/82]; PM: 0.10 GRAINS/SCF (5) [RULE 409, 08/07/81]	D12.15, D323.1, E193.3, H23.12, H23.29
KNOCK OUT POT, RPV-0417, DIA: 5 FT, HEIGHT: 7 FT A/N 515465 527742	D2795			
KNOCK OUT POT, FLARE STACK, DIA: 108 IN, HEIGHT: 258 IN A/N 515465 527742	D1303			
KNOCK OUT POT, RPV-303, SOUTH AREA FLARE PRIMARY, DIA: 10 FT, LENGTH: 40 FT A/N 515465 527742	D1304			
DRUM, WATER SEAL, RW 6989, LENGTH: 25 FT, DIAMETER: 13 FT A/N 515465 527742	D2796			
KNOCK OUT POT, SOUTH FLARE LINE, RPV-1994, DIA: 1 FT 4 IN, HEIGHT: 5 FT 9 IN A/N 515465 527742	D2809			
KNOCK OUT POT, NORTH FLARE LINE, RPV-1993, DIA: 1 FT 4 IN, HEIGHT: 5 FT 9 IN A/N 515465 527742	D2810			
AUTOPUMP, SOUTH AREA FLARE, RW 6876-289.09, DIA: 1 FT, HEIGHT: 3 FT 11 IN A/N 515465 527742	D2863			
AUTOPUMP, SOUTH AREA FLARE, RW 6877-289.09,	D2864			

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DIA: 1 FT, HEIGHT: 3 FT 11 IN A/N 515465 527742				
FUGITIVE EMISSIONS, MISCELLANEOUS A/N 515465 527742	D2542		HAP: (10) [RULE 63SUBPART CC; #5A, 6-23-2003]	H23.3

BACKGROUND:

Application No. 527741 was submitted for the modification of the Delayed Coking Unit to install a new bellows type pressure safety valve (PSV) on the No. 1 Coker overhead accumulator, device D78, and connect it to the South Area Flare system. This proposed installation is mainly to reduce the hazard of atmospheric relief during emergency situations.

Application no. 527742 was submitted for the modification of the South Area flare to connect additional tie-in of the above PSV to the system flare header.

Permit history

The permit histories for the above process unit and the flare are shown in the following table:

Table 1

A/N	Previous Permits	Date	Permitting History
527741	450810 P/C	7/14/06	Modifying to add two strainers to the system
	395995 F50834		Change of ownership from ARCO to BP West Coast
	328878 P/C	9/12/97	Installing a fuel filter for the heater fuel stream
	155154 M62791	5/09/88	Replacing compressors and pumps
	A29418 P20634	6/14/67	P/O issued
South Area Flare - Process 21, System 1			
527742	515465 PC	10/05/11	Adding PSV from coker overhead accumulator in Delayed coking unit
	512088 PC	12/22/10	Adding PRV from two feed surge drums in Superfractionation Unit
	499007 PC	3/26/10	PRVs tie-ins from knock out drums
	484937 PC	9/30/08	Adding autopumps and PRVs tie-ins from various sources
	478484 PC	8/30/08	Adding PRV from feed surge drum in Superfractionation unit
	462149 PC	3/23/07	Adding PRV from C4 Alkylation and Iso. Octene Unit
	454566 PC	3/23/07	To connect to the flare gas recovery system
	449757 PC	1/30/07	Adding PRVs from Mixed Light Ends Loading/Unloading Rack
	434527 PC	7/1/05	Adding vents (Tk-710 project)
	427415		TV clean up
	395370/ F50715	3/27/02	Change of ownership from ARCO to BP

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	C17619/ M43343 4/01/85	Adding vents
	A87575/ P68340 10/27/76	Adding vents
	4148 / 7087	Initial construction permit

COMPLIANCE RECORD REVIEW

A check of the AQMD compliance database for the compliance activity of this facility from 10/01/09 until the present determined that there were no specific violations reported for the Delayed Coking Unit and the South Area flare.

PROCESS DESCRIPTION

The Delayed Coking Unit No. 1 is one of two coking units at the BP Carson Refinery that process mostly heavy residual oil from the vacuum distillation units by thermal cracking to produce light hydrocarbons and petroleum coke. The vacuum tower bottoms are fed to the coker fractionators and pumped through gas fired process heaters before being routed to the coke drums. Vapors from the coke drums return to the fractionators where they are separated into various boiling range streams. The gas produced off the fractionators is compressed and separated at the coker gas plant. The coking process is semi-batch, once the hydrocarbon feed is switched out of the drum, the drum is cooled and the coke is removed from the pit using high pressure water.

Currently, the coker main fractionator overhead is adequately protected by six atmospheric relief valves. However, BP proposes to install a pressure safety valve (PSV) on the overhead drum that will vent to the South Area Flare. The new PSV will serve as a sentinel valve to alleviate the existing hazard of an atmospheric relief during general fire or steam purging.

No other changes to the process or throughputs of the Delayed Coking Unit No. 1 as a result of this proposed modification. During normal conditions, this unit operates 24 hours/day, 7 days/week, and 52 weeks/year.

South Area Flare (Coker)

This South Area flare is considered an air pollution control device to accommodate releases of emergency vents and process upset gases. The flare currently serves multiple units in the south area of the refinery. The flare was designed for a relief load of 601,000 lb/hr (MW at 63 lb/lbmol) and is subject to emergency releases during common failure scenarios, which are shown on Table 2 below.

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Table 2
Common Release Scenarios to the Coker flare

Common Release Scenarios	Lbs/hr	MW
Total Plant Wide Failure	429, 099	42
150# Steam Failure	598,165	61
#7 Cooling Water Tower Failure	601,055	63
Partial Power Failure	381,938	64

This flare will be modified to tie-in a PSVs from No. 1 Coker overhead accumulator in the Delayed Coking unit. However, this valve will not contribute any load to the common release scenarios. This valve will have the following relieving scenarios that will release the gases to the flare:

<u>Scenarios</u>	<u>Lbs/hr</u>
Unit Steam Purge	26,970
Unit Fire	48,306

The proposed PSV is capable of handling upsets from the steam purging and general fires. All other scenarios require the use of the supplemental atmospheric relief valves on the main fractionators.

This Coker flare was chosen for the above tie-ins because of: (1) the operation has the ability to coordinate shutting down of the flare with equipment that are vented to the flare. (2) The proposed PSV is located in a close proximity to the Coker flare headers. (3) The delay coker unit already has PRDs which are tied to the Coker flare. The attached flare analysis showed that these potential relieves are not part of the common failure scenarios (e.g. partial or total plant power failure, cooling tower); therefore, the load from the new PSV will not be additive to these flaring events associated with the Coker flare. As a result, there will be no impact on the capacity of the flare.

EMISSIONS CALCULATION:

Fugitive emissions are the main concerns for the proposed modification to the delay coker unit. The proposed modification will cause a small net increase in VOC emissions from the additional components to the process unit as detailed in Table 3 below.

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Table 3 - Fugitive Emissions of Delayed Coking Unit

Sources	Nos. of Existing Sources*	# Compts Added	Final Compts Count	Emission Factor (lb/yr)	Net Change VOC's	After Modif Emission (lb/yr)
Valves						
Sealed bellows-Gas/V & L Liquid	172	4	176	0		
Live loaded w/dual seal syst: Nat gas	0			4.55		
Gas Vapor	614		614	4.55		2793.7
Light Liquid	155		155	4.55		705.25
Heavy Liquid	352		352	4.55		1601.6
Pumps Sealess type - LL				0		
Double or Tandem Mech. Seal - LL	14		14	46.83		655.6
Single Mech. Seal (HL)	11		11	46.83		515.13
Flanges	5364	6	5370	6.99	41.94	37536.3
Process Drains	138		138	9.09		1254.42
PRVs	46	1	47	0		
Total ROG emissions (lb/yr)	45,020 /yr 125.05 lb/30-dy ave				41.94 lb/yr 0.11 lb/day	45,062 lb/yr or 125.2 lb/dy

Table 4 - Flare Emissions

There will be no changes in the flare emissions. The baseline emissions listed in previous A/N 484937 are used in this application as shown in the table below.

Emission	CO (lb/yr) (lb/dy)	ROG (lb/yr) (lb/dy)	NOx (lb/yr) (lb/dy)	PM (lb/yr) (lb/dy)	SOx (lb/yr) (lb/dy)
◦ Combustion	5555 15.36	946 2.60	1021 2.89	339 0.96	6055 16.56
◦ Fugitive		19.10			
Total	15.36	21.70	2.89	0.96	16.56

RULE REVIEW

Rule 212 - Standards for Approving Permits

The proposed modifications to the Delayed Coker No. 1 Unit meet all criteria in Rule 212 for permit approval. The modification is designed so that the unit can emit a lower emission level during emergency situations.

The installation of an enclosed PSV does not constitute a significant project because 1) the modified permit unit is not located within 1000 feet of a

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school; 2) the emission increase does not exceed the daily maximum specified in subdivision (g) of this rule (30 lbs/day); and 3) the modified permit unit does not have an increase cancer risk greater than, or equal to, one in a million (1×10^{-6}) during a lifetime of 70 years or pose a risk of nuisance.

Rule 401 & 402 - Visible Emissions & Nuisance

Visible emission violations and public nuisance complaints associated with the above project are not expected under normal operating conditions.

Rule 467 - Pressure Relief Devices

The new pressure relief valve (PRV) on the overhead accumulator is the emergency pressure relief valves. PRVs to relief overpressure condition are exempt from this rule as specified by paragraph (g)(3). Therefore, this rule is not applicable to the proposed PRV. However, this new PRV will be subject to the applicable inspection, maintenance and recordkeeping requirements specified by Rule 1173.

Rule 466.1 - Valves and Flanges

The new valves and flanges will be equipped BACT and subject to the applicable inspection, maintenance and recordkeeping requirements specified by Rule 1173. The permit unit is expected to comply with this rule.

Rule 1118 - Control of Emissions from Refinery Flares

1118(c)(1)(A) requires a pilot flame to be present at all times - The South Coker flare is equipped with a thermocouple to indicate the presence of a pilot flame.

1118(c)(1)(B) requires the flare to be operated in a smokeless manner - As indicated above, the South Coker flare is expected to have sufficient capacity to handle the additional loads from the Fractionation Unit. Therefore, the flare is expected to operate in a smokeless manner. In addition, condition D323.1 listed on the facility permit requires specific remedial actions to be taken in the next event that visible emissions are observed from the flare.

1118(c)(1)(C) requires an annual leak survey of all pressure relief devices connected to the refinery flare - The facility is expected to comply with this requirement. Compliance will be determined by the quarterly report that the facility is required to issue according to 1118(i)(5).

1118(g) defines the monitoring and recording requirements - BP has achieved final compliance to the Variance (#5357-36) from the requirements

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of this paragraph. The flare gas is continuously or semi-continuously monitored for total sulfur content, HHV and flow rate.

Rule 1123 - Refinery Process Turnarounds

The refinery is subject to the requirements of this rule during a process turnaround. BP has an approved R1123 plan covered under A/N 408099. The proposed tie-in from the Delayed Coker Unit overhead accumulator to the South Area Flare system are not expected to change the facility's ability to comply with the provisions of this rule. Continued compliance with this rule is expected.

Rule 1173 - Fugitive Emissions of VOCs

This rule controls VOC leaks from valves, flanges, pumps, pressure relief devices, drains, etc. This permit to construct application involves installation of heavy liquid fugitive components at the No. 1 Delayed Coking Unit Overhead Accumulator. BP has an approved Inspection and Maintenance Program (I & M) for fugitive emissions for existing sources that combines the most stringent Federal NSPS I&M program, and a lower BACT leak detection limit (500 ppm) for new fugitive components. BP is expected to comply with the inspection, maintenance, and recordkeeping requirements of Rule 1173 of existing fugitive components.

Reg. XIII - New Source Review:

This regulation applies to any new, modified or relocated source which results in an emission increase of any non-attainment air contaminant, any ozone depleting compound, or ammonia.

Rule 1303(a)(1) – BACT:

The proposed installation of the enclosed pressure relief valve will result in an insignificant emission increase, <1 lb/day of VOC emissions. BACT is not required. However, for this project, BP will install 4 bellow sealed valves (BSV) in gas/vapor and light liquid application just for keeping the fugitive emission at the low level.

Rule 1303(b) - Modeling and Emission Offsets:

The only increase is from the new fugitive source added in the proposed modification. However, since the increase is 0.11 lb/day, no emission offsets and modeling for VOC emissions are required.

Reg. XIV - New Source Review of Carcinogenic Air Contaminants

This rule requires a permit applicant to assess the cancer risk due to the cumulative emission impacts of new/modified sources in the facility.

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This modification will cause a small increase in VOC emissions associated with fugitive components. The resulting increases in toxic air contaminants from the proposed modification are expected to be insignificant. Compliance with this rule is expected.

Reg. XVII - Prevention of Significant Deterioration (PSD)

This regulation applies to pollutants which have attained the ambient air standards in South Coast Air Basin. These include NO₂, SO₂ and lead. This project does not result in an increase in emissions of these pollutants and therefore it is not subject to the requirements of this regulation. PSD applicability for GHGs does not trigger since the proposed modifications impact only VOC emissions.

Reg. XX – Regional Clean Air Incentives Market (RECLAIM)

BP Carson refinery is a cycle II RECLAIM facility. There are no emissions of NO_x and SO_x associated with PRV installation. Furthermore, the flare is exempt from the monitoring, reporting, and recordkeeping requirements of the rule. Therefore, this regulation is not applicable to the proposed modification. The facility is expected to continue to comply with the requirements of this regulation.

Reg. XXX - TV Operating Permits

Rule 3002 requires that no person shall construct, modify, or operate equipment located at a Title V facility without first obtaining a Title V permit or permit revision that allows the construction, or modification. This facility is subject to and complies with Title V requirements. On September 1, 2009, BP's initial Title V permit became effective, and has been issued revisions.

This project is considered to be a "De Minimis Significant Revision," which means any Title V revision where the cumulative emission increase of non-RECLAIM pollutants or hazardous pollutants from this permit revision during the term of the permit is not greater than any of the emission threshold levels specified by Table 1 of Rule 3000(b)(7). The proposed Title V permit revision will be submitted to EPA for a 45-day review.

Part 2 State Regulations

California Environmental Quality Act (CEQA)

This proposed modification is not a significant project. Therefore, preparation of a CEQA document is not required.

Part 3 Federal Regulations**40 CFR Part General Provisions****60 Subpart A**

§60.18(c)(1) requires flares to be operated with no visible emissions. Condition D401.1 currently requires specific remedial actions to be taken in the event that visible emissions are observed from the flare.

Compliance with this section is expected.

§60.18(c)(2) requires flares to be operated with the flame to be present at all times. This flare is operated with pilot light continuously monitored. Continued compliance with this section is expected.

§60.18(c)(3) through (6) defines the maximum tip velocity and HHV requirements of the flare. The propose modification will not change the operation of the flare; therefore, it will not affect the tip velocity, or HHV of the gas that is vented to the flare. Continued compliance with this section is expected.

§60.18(f)(2) requires the presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame. Condition D12.15 currently on the permit requires the installation of a thermocouple to indicate the presence of a pilot flame. The facility is therefore in compliance with this section.

40 CFR Part Standards of Performance for Petroleum Refineries**60 Subpart J**

§60.104(a)(1) limits the H₂S concentration of fuel gas burned in combustion devices to be no more than 160 ppmv. The process upset gases that are combusted in a flare are exempt.

Refinery flares in the South Coast Air Basin are only allowed to operate during the conditions that are exempt from the requirements of this subpart. The subject flare is therefore not subject to this subpart.

40 CFR60 Subpart GGG - Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries.

The process unit is subject to the applicable requirements of this subpart.

§60.592(a) requires new devices to comply with section §60.482-1 through §60.482-10.

§60.482-2 defines the inspection and maintenance requirements for pumps in light liquid service. The pumps will also be sealless or tandem sealed that comply to BACT of < 500 ppmv ROG emissions. This section is not applicable since there will be no pumps to be installed for this project.

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§60.482-3 requires compressors to be equipped with a seal system that includes a barrier fluid. This section is not applicable since there is no compressor to be installed in this project.

§60.482-4 defines the requirements for pressure relief devices in gas/vapor service. This section exempts the PRVs being connected to the control equipment. Since the proposed PRD will be connected to the control equipment, it is exempt from this section requirement.

§60.482-5 defines the requirements for sampling connection systems. This section is not applicable to this project as there will be no sampling systems to be installed.

§60.482-6 requires each open ended valve or line to be equipped with: a cap, blind flange, plug, or a second valve that will be sealed at all times. These standards do not apply as the project will not involve with open ended valve or line.

§60.482-7 defines the inspection and maintenance requirements for valves in light liquid service. The valves to be installed will be included in the facility inspection and maintenance program. Compliance with this section is expected.

§60.482-8 defines the requirements for pumps and valves in heavy liquid service. The new components in heavy liquid service will be equipped with BACT complying to a ROG emission limit of < 500 ppmv, and will be included in the facility inspection and maintenance program. The components are expected to comply with these standards.

§60.482-9 provides allowances for delaying the repair of leaking components. Any repairs of leaked components will be subject to the time limits specified by AQMD Rule 1173 – Table 2, or in this section, whichever is more stringent. The components are expected to comply with the requirements.

§60.482-10 requires flares (control device) to comply with the requirements of §60.18. Please refer to details above.

BP refinery is expected to continue demonstrating the compliance with all applicable requirements of this subpart.

40 CFR Part 63 Subpart CC – National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries

§63.640(c)(4) indicates that this subpart applies to equipment leaks from petroleum product refining units. This process unit is, therefore, subject to the equipment leak standards for existing sources as specified in §63.648.

§63.648 requires devices subject to this subpart to comply with the equipment leak requirements of 40 CFR60 Subpart VV.

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The ability to comply with the requirements of 40 CFR60 Subpart VV is described in the evaluation of 40 CFR60 Subpart GGG in the evaluation. In general, the equipment leak inspection and monitoring requirements of Rule 1173 are more stringent, but pertinent requirements of this regulation have been incorporated into BP's Inspection and Monitoring Program for fugitive emissions.

BP is expected to be in compliance with requirements of this regulation.

CONCLUSION/ RECOMMENDATION:

The above equipment will operate in compliance with all applicable rules and regulations of the District. Permits to Construct are recommended to be issued to BP Carson Refinery subject to the following conditions:

Conditions:

Delayed Coking Unit No. 1: S13.2, S46.1, S46.2, S56.1, H23.3

South Area Flare: S31.10, S58.2, D12.15, D323.1, E193.3, H23.3, H23.12, H23.29

S13.2 ALL DEVICES UNDER THIS SYSTEM ARE SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES OR REGULATIONS:

CONTAMINANT	RULE	RULE/SUBPART
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VOC	DISTRICT RULE	1123
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[RULE 1123, 12-7-1990]

S31.10 THE FOLLOWING BACT REQUIREMENTS SHALL APPLY TO VOC SERVICE FUGITIVE COMPONENTS ASSOCIATED WITH THE DEVICES THAT ARE COVERED BY APPLICATION NUMBER(S) 454566, 454567, 454568, 458598, 458600, 458610, 459257, 459284, 459286:

_The operator shall provide to the District, no later than 90 days after initial startup, a recalculation of the fugitive emissions based on actual components installed and removed from service. The valves and flanges shall be categorized by size and service. The operator shall submit a listing of all new non-bellows seal valves which shall be categorized by tag no., size, type, operating temperature, operating pressure, body material, application, and reasons why bellows seal valves were not used

_All new valves in VOC service, except those specifically exempted by Rule 1173 and those in heavy liquid service as defined in Rule 1173, shall be bellows seal valves, except as approved by the District, in the following applications: heavy liquid service, control valve, instrument piping/tubing, applications requiring torsional valve stem motion, applications where valve failure could pose safety hazard (e.g., drain valves with valve stems in horizontal position), retrofits/special applications with space limitations, and valves not commercially available

_All new valves and major components in VOC service as defined by Rule 1173, except those specifically exempted by Rule 1173 and those in heavy liquid service as defined in Rule 1173, shall be distinctly identified from other components through their tag numbers (e.g., numbers ending in the letter "N"), and shall be noted in the records

_All new components in VOC service as defined in Rule 1173, except valves and flanges, shall be inspected quarterly using EPA reference Method 21. All new valves and flanges in VOC service, except those specifically exempted by Rule 1173, shall be inspected monthly using EPA Method 21

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_If 98.0 percent or greater of the new (non-bellows seal) valves and the new flange population inspected is found to leak gaseous or liquid volatile organic compounds at a rate less than 500 ppmv for two consecutive months, then the operator may change to a quarterly inspection program with the approval of the District

_The operator shall revert from quarterly to monthly inspection program if less than 98.0 percent of the new (non-bellows seal) valves and the new flange population inspected is found to leak gaseous or liquid volatile organic compounds at a rate less than 500 ppmv

_All new components in VOC service with a leak greater than 500 ppmv but less than 1,000 ppmv, as methane, measured above background using EPA Method 21 shall be repaired within 14 days of detection. Components shall be defined as any valve, fitting, pump, compressor, pressure relief valve, diaphragm, hatch, sight-glass, and meter, which are not exempted by Rule 1173

_The operator shall keep records of the monthly inspection (quarterly where applicable), subsequent repair, and re-inspection, in a manner approved by the District. Records shall be kept and maintained for at least five years, and shall be made available to the Executive Officer or his authorized representative upon request

_All open-ended valves shall be equipped with cap, blind flange, plug, or a second valve

_All pressure relief valves shall be connected to a closed vent system or equipped with a rupture disc and telltale indicator

_All pumps shall utilize double seals and be connected to a closed vent system

_All compressors to have a seal system with a higher pressure barrier fluid.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(b)(2)-OFFSET, 5-10-1996]

S46.1 THE FOLLOWING CONDITIONS SHALL APPLY TO VOC SERVICE FUGITIVE COMPONENTS_ IN THIS SYSTEM:

_For the purpose of this condition, leakless valve shall be defined as any valve equipped with sealed bellow or equivalent as approved in writing by the District prior to installation. Components shall be defined as any valve, flange, fitting, pump, compressor, pressure relief device, diaphragm, hatch, sight-glass, and meter, which are not exempted by Rule 1173.

_For the purpose of this condition, existing component shall be defined as any component that was installed under a permit to construct/operate that was issued prior to June 1, 1993. New component shall be defined as any component that was installed or modified under a permit to construct that was issued between June 1, 1993 and December 27, 2001.

_All new valves in VOC service shall be of leakless type, except those specifically exempted by Rule 1173 or approved by the District in the following applications: heavy liquid service, control valves, instrument piping/tubing, applications requiring torsional valve stem motion, applications where failures could pose safety hazards (e.g. drain valves with valve stems in horizontal position), retrofits with space limitations, and valves not commercially available.

_All new valves and new major components, as defined in Rule 1173, shall be physically identified in the field with special marking that distinguishes the components from existing. Additionally all new components shall be distinctly identified from existing components through their tag numbers (e.g. numbers ending in the letter "N"), and shall be noted in the records.

_All new components in VOC service with a leak greater than 500 ppm but less than 1,000 ppm, as methane, measured above background using EPA Method 21, shall be repaired within 14 days of detection. A leak greater than 1,000 ppm shall be repaired according to Rule 1173.

_All new pressure relief valves shall be connected to closed vent system or equipped with rupture disc.

_All new sampling connections shall be closed-purge, closed-loop, or closed-vent system.

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_All components are subject to 40CFR60, Subpart GGG.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(b)(2)-OFFSET, 5-10-1996]

S46.2 THE FOLLOWING CONDITIONS SHALL APPLY TO _VOC SERVICE FUGITIVE COMPONENTS_ IN THIS SYSTEM:

_For the purpose of this condition, leakless valve shall be defined as any valve equipped with sealed bellow or equivalent as approved in writing by the District prior to installation. Components shall be defined as any valve, flange, fitting, pump, compressor, pressure relief device, diaphragm, hatch, sight-glass, and meter, which are not exempted by Rule 1173.

_For the purpose of this condition, existing component shall be defined as any component that was installed under a permit to construct/operate that was issued prior to June 1, 1993. New component shall be defined as any component that was installed or modified under a permit to construct that was issued between June 1, 1993 and December 27, 2001.

_The operator shall provide to the District, no later than August 29, 2003, a complete, as built, process instrumentation diagram(s) with a listing showing by functional grouping, location, type, accessibility, and application of each new valve in VOC service. The operator shall provide copies of requisition data sheets for all non-leakless type valves with a listing of tag numbers and reasons why leakless valves were not used.

_The operator shall provide to the District, no later than August 29, 2003, a list of the following components broken down into the categories contained in District Form E-18A entitled "Fugitive Component Count": existing components, new components proposed to be installed under applicable permit(s) to construct, and new components that were actually installed under applicable permit(s) to construct.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(b)(2)-OFFSET, 5-10-1996]

S56.1 VENT GASES FROM ALL AFFECTED DEVICES OF THIS PROCESS/SYSTEM SHALL BE DIRECTED TO A GAS RECOVERY SYSTEM, EXCEPT FOR THE VENTING FROM EQUIPMENT SPECIFICALLY IDENTIFIED IN A PERMIT CONDITION, AND FOR THE FOLLOWING EVENTS WHICH VENT GASES MAY BE DIRECTED TO A FLARE:

- 1) VENT GASES RESULTING FROM AN EMERGENCY AS DEFINED IN RULE 1118
- 2) VENT GASES RESULTING FROM PLANNED SHUTDOWNS, STARTUPS AND/OR TURNAROUNDS AS DEFINED IN _RULE 1118, PROVIDED THAT THE OWNER/OPERATOR FOLLOWS THE APPLICABLE OPTIONS AND ANY ASSOCIATED LIMITATIONS TO REDUCE FLARING THAT WERE IDENTIFIED, EVALUATED AND MOST RECENTLY SUBMITTED BY THE OWNER/OPERATOR TO THE EXECUTIVE OFFICER PURSUANT TO RULE 1118, OR ANY OTHER OPTIONS(S) WHICH REDUCES FLARING FOR SUCH PLANNED EVENTS; AND
- 3) VENT GASES DUE TO AND RESULTING FROM AN ESSENTIAL OPERATING NEED, AS DEFINED IN RULE 1118.

THE EVALUATION OF OPTIONS TO REDUCE FLARING DURING PLANNED SHUTDOWNS, STARTUPS AND/OR TURNAROUNDS SHALL BE UPDATED ANNUALLY TO REFLECT ANY REVISIONS, AND SUBMITTED TO THE EXECUTIVE OFFICER IN THE FIRST QUARTER OF EACH YEAR, BUT NO LATER THAN MARCH 31ST OF THAT YEAR.

THIS PROCESS/SYSTEM SHALL NOT BE OPERATED UNLESS ITS DESIGNATED FLARE(S) ARE IN FULL USE AND HAVE VALID PERMITS TO RECEIVE VENT GASES FROM THIS PROCESS/SYSTEM.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(b)(2) – Offset, 5-10-1996]

S58.2 SOUTH AREA FLARE SYSTEM SHALL ONLY BE USED TO RECEIVE AND HANDLE VENT GASES FROM THE FOLLOWING PROCESS(ES) AND SYSTEM(S):

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- 1) COKING UNITS (PROCESS: 2, SYSTEM: 1 & 2)
- 2) COKER BLOWDOWN FACILITY (PROCESS: 2, SYSTEM: 3)
- 3) COKER GAS COMPRESSION & ABSORPTION UNIT (PROCESS: 2, SYSTEM: 5)
- 4) BLOWDOWN GAS COMPRESSION SYSTEM (PROCESS: 2, SYSTEM: 6)
- 5) COKER GAS TREATING/H₂S ABSORPTION UNIT (PROCESS: 2, SYSTEM: 11)
- 6) FLUID CATALYTIC CRACKING UNITS (PROCESS: 3, SYSTEM: 1, 2 & 3)
- 7) PROPYLENE TETRAMER UNIT (PROCESS: 3, SYSTEM: 6)
- 8) SUPERFRACTIONATION UNIT (PROCESS: 4, SYSTEM 1)
- 9) NAPHTHA SPLITTER UNIT (PROCESS: 4, SYSTEM: 2)
- 10) LIGHT ENDS DEPROPANIZER UNIT (PROCESS: 4, SYSTEM: 3)
- 11) STRAIGHT RUN LIGHT ENDS DEPROPANIZER UNIT (PROCESS: 4, SYSTEM: 4)
- 12) NORTH AREA DEISOBUTANIZER UNIT (PROCESS: 4, SYSTEM: 5)
- 13) COKER GASOLINE FRACTIONATION UNIT (PROCESS: 4, SYSTEM: 7)
- 14) LIQUID RECOVERY UNIT (PROCESS: 4, SYSTEM: 8)
- 15) LIGHT GASOLINE HYDROGENATION UNIT (PROCESS: 5, SYSTEM: 4)
- 16) CATALYTIC REFORMER UNITS (PROCESS: 6, SYSTEM: 1, 2, & 3)
- 17) ALKYLATION UNIT (PROCESS: 9, SYSTEM: 1)
- 18) ISO-OCTENE UNIT (PROCESS: 9, SYSTEM: 9)
- 19) MDEA REGENERATION UNITS (PROCESS: 12, SYSTEM: 9, 10, 11, 12, & 13)
- 20) NORTH & SOUTH SOUR WATER TREATMENT SYSTEMS (PROCESS: 12, SYSTEM: 14 & 15)
- 21) SULFUR RECOVERY UNITS (PROCESS: 13, SYSTEM: 1, 2, 3, & 4)
- 22) CLAUS TAIL GAS TREATING UNITS (PROCESS: 13, SYSTEM: 5 & 7)
- 23) MIXED LIGHT ENDS TANK CAR LOADING/UNLOADING (PROCESS: 14, SYSTEM: 2)
- 24) REFINERY VAPOR RECOVERY SYSTEM (PROCESS: 21, SYSTEM: 4)
- 25) SOUTH AREA FLARE GAS RECOVERY SYSTEM (PROCESS: 21, SYSTEM: 10)
- 26) NORTH AREA FLARE GAS RECOVERY SYSTEM (PROCESS: 21, SYSTEM: 11)

THE FLARE GAS RECOVERY SYSTEM SHALL BE OPERATED IN FULL USE WHEN ANY OF THE ABOVE PROCESS(ES) AND SYSTEM(S) IS IN OPERATION. FULL USE MEANS ONE OF TWO COMPRESSOR TRAINS (PROCESS 21, SYSTEM 10 AND PROCESS 21, SYSTEM 11) IS ONLINE AT ANY GIVEN TIME, EXCEPT DURING PLANNED STARTUPS OR SHUTDOWNS WHEN BOTH COMPRESSORS TRAINS SHALL BE ONLINE.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(b)(2)-OFFSET, 5-10-1996]

D12.15 THE OPERATOR SHALL INSTALL AND MAINTAIN A(N) INFRARED / ULTRAVIOLET DETECTOR OR A THERMOCOUPLE TO ACCURATELY INDICATE THE PRESENCE OF A FLAME AT THE PILOT LIGHT.

The operator shall also install and maintain a device to continuously record the parameter being measured.

[RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997; 40CFR 60 Subpart A, 6-13-2007]

D323.1 THE OPERATOR SHALL CONDUCT AN INSPECTION FOR VISIBLE EMISSIONS FROM ALL STACKS AND OTHER EMISSION POINTS OF THIS EQUIPMENT WHENEVER THERE IS A PUBLIC COMPLAINT OF VISIBLE EMISSIONS, WHENEVER VISIBLE EMISSIONS ARE OBSERVED, AND ON A BI-WEEKLY BASIS, AT LEAST, UNLESS THE EQUIPMENT DID NOT OPERATE DURING THE ENTIRE BI-WEEKLY PERIOD. THE ROUTINE BI-WEEKLY INSPECTION SHALL BE CONDUCTED WHILE THE EQUIPMENT IS IN OPERATION AND DURING DAYLIGHT HOURS.

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IF ANY VISIBLE EMISSIONS (NOT INCLUDING CONDENSED WATER VAPOR) ARE DETECTED THAT LAST MORE THAN THREE MINUTES IN ANY ONE HOUR, THE OPERATOR SHALL VERIFY AND CERTIFY WITHIN 24 HOURS THAT THE EQUIPMENT CAUSING THE EMISSION AND ANY ASSOCIATED AIR POLLUTION CONTROL EQUIPMENT ARE OPERATING NORMALLY ACCORDING TO THEIR DESIGN AND STANDARD PROCEDURES AND UNDER THE SAME CONDITIONS UNDER WHICH COMPLIANCE WAS ACHIEVED IN THE PAST, AND EITHER:

- 1). TAKE CORRECTIVE ACTION(S) THAT ELIMINATES THE VISIBLE EMISSIONS WITHIN 24 HOURS AND REPORT THE VISIBLE EMISSIONS AS A POTENTIAL DEVIATION IN ACCORDANCE WITH THE REPORTING REQUIREMENTS IN SECTION K OF THIS PERMIT; OR
- 2). HAVE A CARB-CERTIFIED SMOKE READER_ DETERMINE COMPLIANCE WITH THE OPACITY STANDARD, USING EPA METHOD 9 OR THE PROCEDURES IN THE CARB MANUAL "VISIBLE EMISSION EVALUATION", WITHIN THREE BUSINESS DAYS AND REPORT ANY DEVIATIONS TO AQMD.

THE OPERATOR SHALL KEEP THE RECORDS IN ACCORDANCE WITH THE RECORDKEEPING REQUIREMENTS IN SECTION K OF THIS PERMIT AND THE FOLLOWING RECORDS:

- 1). STACK OR EMISSION POINT IDENTIFICATION;
- 2). DESCRIPTION OF ANY CORRECTIVE ACTIONS TAKEN TO ABATE VISIBLE EMISSIONS;
- 3). DATE AND TIME VISIBLE EMISSION WAS ABATED; AND
- 4). ALL VISIBLE EMISSION OBSERVATION RECORDS BY OPERATOR OR A CERTIFIED SMOKE READER.

[**RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997; RULE 401, 3-2-1984; RULE 401, 11-9-2001**]

E193.3 THE OPERATOR SHALL OPERATE AND MAINTAIN THIS EQUIPMENT ACCORDING TO THE FOLLOWING SPECIFICATIONS:

The operator shall comply with all applicable requirements specified in Subpart A of the 40CFR60
[**40 CFR 60 Subpart A, 6-13-2007**]

H23.3 This equipment is subject to the applicable requirements of the following rules and regulations:

CONTAMINANT	RULE	RULE/SUBPART
VOC	DISTRICT RULE	1173
VOC	40CFR60, SUBPART	GGG

[**RULE 1173, 5-13-1994, RULE 1173, 2-6-2009, 40CFR 60 Subpart GGG, 6-2-2008**]

H23.12 THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES OR REGULATIONS:

CONTAMINANT	RULE	RULE/SUBPART
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BENZENE | 40CFR61, SUBPART | FF
[40 CFR 61 Subpart FF, 12-4-2003]

H23.29 THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES OR REGULATIONS:

CONTAMINANT | RULE | RULE/SUBPART

SOX | DISTRICT RULE | 1118
[RULE 1118, 11-4-2005]